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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/922,183	08/02/2001	Akihito Jinda	70820-56331	7587

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EXAMINER

SHENG, TOM V

ART UNIT	PAPER NUMBER
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2673

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/922,183

Applicant(s)

JINDA ET AL.

Examiner

Tom V Sheng

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Information Disclosure Statement

1. Document A-08500915 of the information disclosure statement filed 8/2/2001 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because neither an English translation nor an English abstract is provided. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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The recitation "the vertical synchronization interval" on page 33, line 7 is indefinite as it could refer to the current vertical synchronization interval or the previous vertical synchronization interval.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by Adachi et al. (US Patent Application Publication 2001/0038369 A1).

As for claims 1 and 2, Adachi teaches a liquid crystal display device driving method for driving a liquid crystal display device (LCD 30; figure 10) by supplying image data (output of driving circuit 10) to be written into each pixel of the liquid crystal display (pixels of the liquid crystal panel 20) to the liquid crystal display device a plurality of times in one vertical synchronization interval (2 times at 120 Hz for each frame at 60 Hz; paragraphs 154-156), comprising the step of:

obtaining the whole image data supplied *the plurality of times* in one vertical synchronization interval (one vertical period corresponds to one frame; paragraph 20) on the basis of a data value of an image signal in a previous vertical synchronization

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interval and a data value of an image signal in a current vertical synchronization interval (figure 4; the combination detection circuit 12 compares the input image signal S of the current field with the input image signal S of the previous field, and the overshoot voltage detection circuit 13 correspondingly detects and drives a new gray-level voltage to the polarity inversion circuit 14 as a driving voltage; paragraphs 104-106). This method similarly reads on claim 2's recitation "obtaining image data supplied *at least a first time out of the image data supplied the plurality of times* in one vertical synchronization interval ..."

As to claim 3, Adachi further teaches the image data supplied at second and subsequent times out of the image data supplied the plurality of times in one vertical synchronization interval is provided by image data that has a value identical to the data value of the image signal in the (current) vertical synchronization interval (driving circuit 10 outputs an overshoot voltage in the first sub-field and outputs a gray-level voltage V_g corresponding to the input image signal S of the current frame in the second sub-field; paragraph 156. Second sub-field reads on the second time in one vertical synchronization interval). See figure 11, paragraphs 157-159 for further details.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Adachi.

As to claim 4, Adachi teaches supplying image data at the second and subsequent times can be of overshoot amounts different from the first time and also can have no overshoot (that is, same as the gray-level voltage V_g corresponding to the image signal of the current frame). However, Adachi does not teach that the image data has a specified value intermediate between the data value of the image signal in the previous vertical synchronization interval and the data value of the image signal in the current vertical synchronization interval. On the other hand, it is conceivable to one of ordinary skill in the art of the time of the invention to provide an intermediate value as stated in order to "pull-down" the display intensity faster to the gray-level of the current frame, after an overshoot driving at the first sub-field or time. Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Adachi's invention such that an intermediate data value is driven at the second and/or subsequent times, so that an even faster time to desired contrast can be achieved.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Usui et al. (US Patent 5347294) teaches scanning liquid crystal panel N times during one field period. Furthermore, the image display circuit includes a table ROM

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comparing a current video signal with a previous video signal of one frame before, and generates gray scale data for N times in accordance with the comparison result.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom V Sheng whose telephone number is (703) 305-6708. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (703) 305-4938. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature, or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

TS
June 1, 2003


KENT CHANG
PRIMARY EXAMINER